



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,085	07/18/2003	William W. Mayfield	PD-970134A	3297

7590 03/25/2005

HUGHES ELECTRONICS CORPORATION
CORPORATE PATENTS & LICENSING
P. O. BOX 956
BLDG. R11/MAIL STATION A109
EL SEGUNDO, CA 90245-0956

EXAMINER

GELIN, JEAN ALLAND

ART UNIT	PAPER NUMBER
----------	--------------

2681

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/623,085

Applicant(s)

MAYFIELD ET AL.

Examiner

Jean A Gelin

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/18/03.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Karabinis (US 6,052,585).

Regarding claims 1, 3, Karabinis teaches a terrestrial communication system using satellite uplink and downlink frequencies used by satellites (fig. 1) comprising: at least one terrestrial user terminal (34e) transmitting, without using said satellites, a first signal on at least one satellite downlink frequency (38) and receiving, without using said satellites, a second signal on at least one satellite uplink frequency (38) (i.e., link (38) connecting mobile 34a is the same as link (38) connecting mobile 34e, col. 4, lines 50-54).

Regarding claim 4, Karabinis teaches wherein a satellite ground user (34a) using said uplink and said downlink frequencies is geographically isolated from said terrestrial terminal unit (i.e., satellite ground unit 34a is isolated from terrestrial ground unit 34e, fig. 1).

Regarding claim 5, Karabinis teaches method of reversing the transmission and reception frequency bands for the terrestrial user relative to the satellite user (i.e., the frequency band that carries information between 34a and satellite 32 and the frequency

Art Unit: 2681

band that carries information between 34e terrestrial site 50a are different, col. 4, lines 55-56).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karabinis (US 6,052,586) in view of Dent (US 5,848,060).

Regarding claims 2 and 8, Karabinis teaches wherein said terrestrial communication system includes a signal nulling means in the direction of said satellites that produces signals using said uplink and said downlink frequencies.

However, a terrestrial cell site includes a signal nulling means in the direction of a satellite that produces signals using said uplink and said downlink frequencies is known in the art of communications, as evidenced by Dent. Dent teaches the technique of interference cancellation or creating pattern null at the center of neighboring cells can be employed as a further bonus to reduce C/I from neighboring beams to negligible proportions (i.e., signal nulling means is included in col. 50, lines 1-8). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have implemented the teaching of Dent within the system of Karabinis in order to have used a negative weights to create nulls in the radiation pattern at desired places or otherwise to reduce the sidelobe levels in order to increase the C/I.

Regarding claim 6, Karabinis teaches all the limitations except generating at least one pattern null to reduce satellite interference.

However, the preceding limitation is known in the art of communications. Dent teaches creating nulls pattern can employed as a bonus to reduce interference (col. 50, lines 1-8). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have implemented the teaching of Dent within the system of Karabinis in order to have used a negative weights to create nulls in the radiation pattern at desired places or otherwise to reduce the sidelobe levels in order to increase the C/I.

Regarding claim 7, Karabinis teaches that satellite user of unit 34d and terrestrial user of unit 34 are in the same area (28) but the frequency band associated with each one can be different (col. 4, lines 55-56).

Karabinis fails to teach adding pattern nulls at the terrestrial site to block interference.

However, the preceding limitation is known in the art of communications. Dent teaches creating nulls pattern can employed as a bonus to reduce interference (col. 50, lines 1-8). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have implemented the teaching of Dent within the system of Karabinis in order to have used a negative weights to create nulls in the radiation pattern at desired places or otherwise to reduce the sidelobe levels in order to increase the C/I.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-7 are rejected under the judicially created doctrine of double patenting over claims 1-4, 8, 17, 108, and 117 of U. S. Patent No. 6,735,437 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: A method of minimizing interference between terrestrial user communications and satellite user communications, comprising: reversing the transmission and reception frequency bands for the terrestrial user relative to the satellite user; and generating at least one pattern null with an antenna to reduce satellite interference.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of

Art Unit: 2681

the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean A Gelin whose telephone number is (703) 305-4847. The examiner can normally be reached on 9:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (703) 306-0003. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGelin
March 18, 2005

JEAN GELIN
PRIMARY EXAMINER

Jean A Gelin